


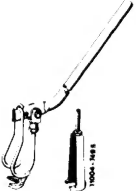



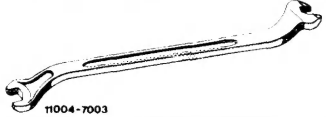
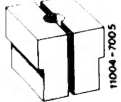
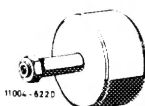


## 05—330 Removing and installing tensioning rail

Tightening torques		Nm
Expansion bolt for camshaft sprocket		80
Valve adjusting screw		20–40
Cylinder head cover capped nuts and bolts		5
Balance disc to crankshaft		400 + 50
Pulley and vibration damper to balance disc		35
Ball locating ring in chain tensioner		25
<b>Special tools</b>		
Torque wrench 150–500 Nm (15–50 kpm) 3/4" square		001 589 31 21 00
Holder		110 589 00 40 00
Socket 27 mm, 1/2" square for rotating engine		001 589 65 09 00
Depressor for valve spring		110 589 04 61 00
Puller for bearing bolt (basic unit)		115 589 20 33 00
M 8 x 30 bolt for extractor		115 589 00 34 00
Wrench socket 10 mm 1/2" square, 140 mm long		000 589 05 07 00
Valve adjusting wrench 17 mm		110 589 01 01 00
Chain tensioner holder		110 589 02 31 00

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Impact extractor for bearing pin (basic unit)



116 589 20 33 00

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M 6 x 50 bolt for impact extractor



116 589 01 34 00

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### Conventional tools

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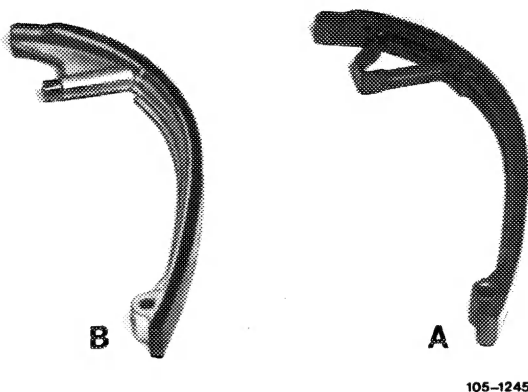
Connection 3/4" square socket  
to 1/2" square head

e.g. made by Hazet, D-5630 Remscheid 1  
order no. 1058 R-1

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### Note

A 1st version tensioning rail (A) can be replaced by  
a 2nd version tensioning rail (B).

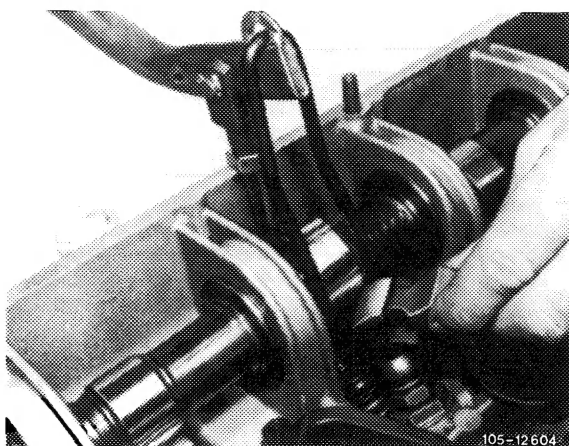


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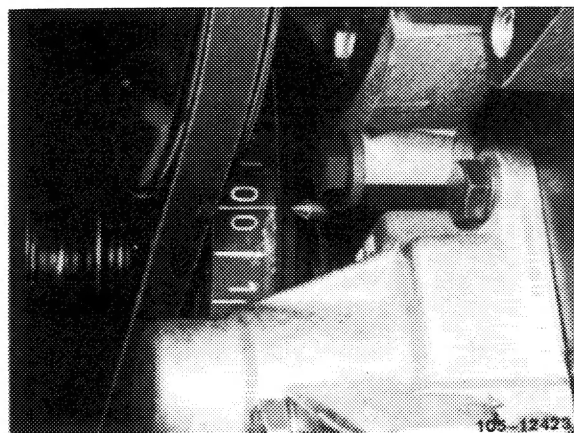
### Removal

1 Remove radiator (20-240).

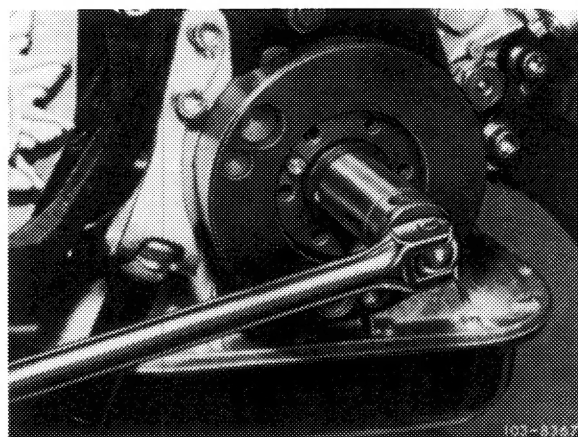
2 Remove rocker arms of right camshaft (exhaust)  
(05-230).



3 Position engine at ignition TDC.

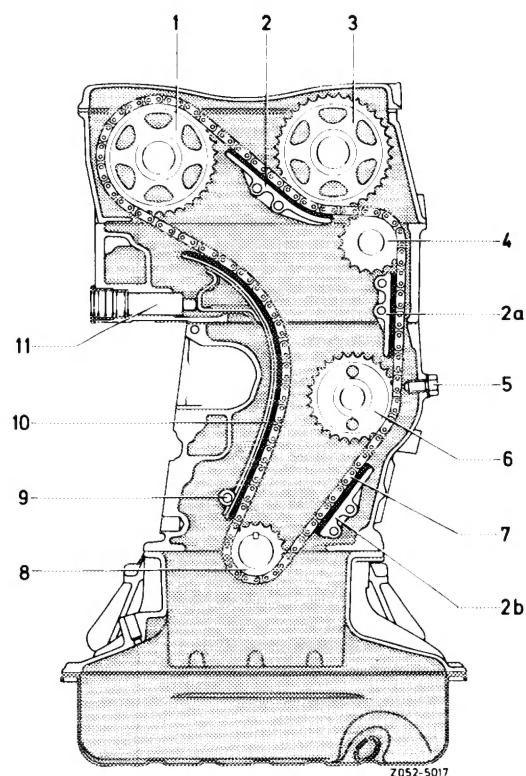


4 Remove vibration damper (03-340). Remove balance disc without bore to extract the tensioning rail bearing pin (03-340).



5 Remove chain tensioner (05-310).

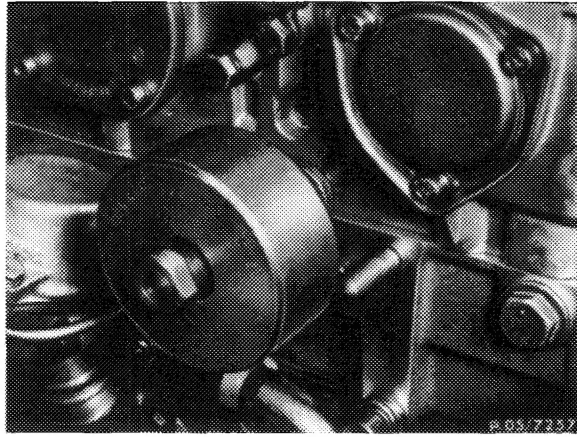
6 Mark relation of left and right camshaft sprockets and timing chain with paint, and remove **right** camshaft sprocket (1).



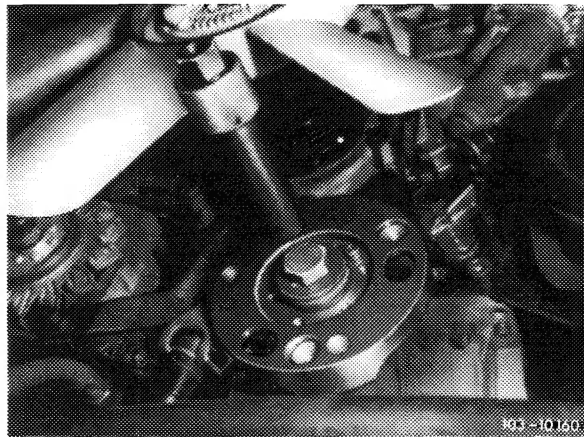
#### Chain drive

- |                             |                               |
|-----------------------------|-------------------------------|
| 1 Exhaust camshaft sprocket | 7 Timing chain                |
| 2-2b Sliding rails          | 8 Crankshaft sprocket         |
| 3 Intake camshaft sprocket  | 9 Bearing pin tensioning rail |
| 4 Guide wheel               | 10 Tensioning rail            |
| 5 Lock screw                | 11 Hydraulic chain tensioner  |
| 6 Intermediate wheel        |                               |

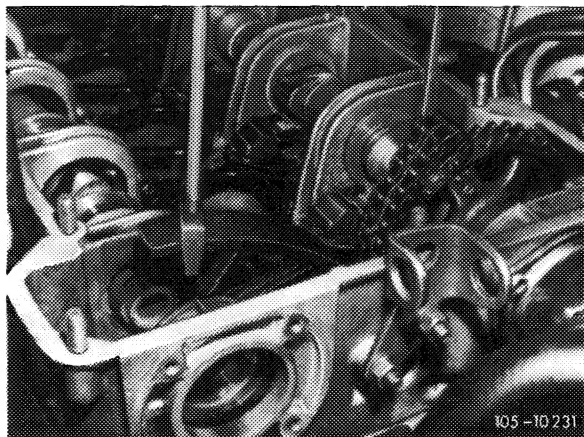
7 Remove sliding rail in camshaft housing.



8 Pull out tensioning rail bearing pin with extractor.

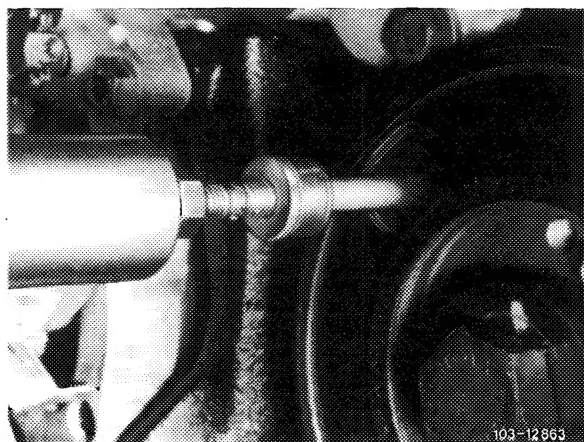


9 Remove tensioning rail upward.



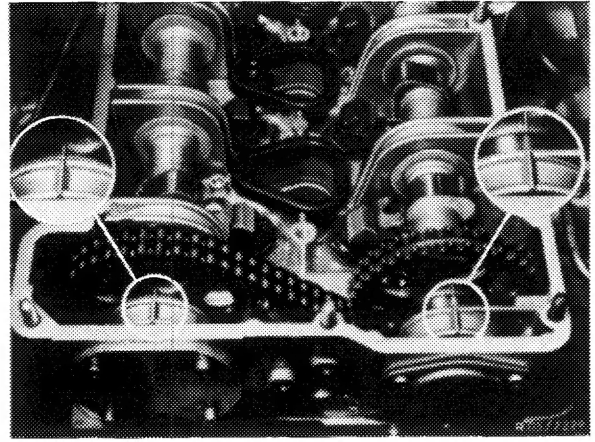
## Installation

10 Guide in tensioning rail. Coat bearing pin with a sealing compound and knock in.



11 Install righthand camshaft sprocket, while paying attention to color symbol on camshaft sprocket and timing chain.

Marks on camshaft sprockets and camshaft housing must align when engine is set at TDC position.



12 Install sliding rail in camshaft housing (05—340).

13 Set chain tensioner at assembly position and install (05—310).

14 Install balance disc and vibration damper (03—314).

15 Install rocker arms (05—230).

16 Install radiator.

